Dell™ Latitude™ Z600 Service Manual

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

If you purchased a Dell™ n Series computer, any references in this document to Microsoft® Windows® operating systems are not applicable.

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System Setup

Dell™ Latitude™ E5400 Discrete Service Manual

Your computer offers the following BIOS and System Setup options:

- Access System Setup by pressing <F2>
- Bring up a one-time boot menu by pressing <F12>
- Access the Intel® AMT settings by pressing <Ctrl> + <P>

Entering System Setup

Press <F2> to enter System Setup and make changes to user-definable settings. If you have trouble entering System Setup using this key, press <F2> when the keyboard lights first flash.

Boot Menu

Press <F12> when the Dell™ logo appears to initiate a one-time boot menu with a list of the valid boot devices for the computer. **Diagnostics** and **Enter Setup** options are also included in this menu. The devices listed on the boot menu depend on the bootable devices installed in the computer. This menu is useful when you are attempting to boot to a particular device or to bring up the diagnostics for the computer. Using the boot menu does not make any changes to the boot order stored in the BIOS.

Navigation Keystrokes

Use the following keystrokes to navigate the System Setup screens.

Navigation Keystrokes	
Action	**Keystroke**
Expand and collapse field	<Enter>, left- or right-arrow key, or +/–
Expand or collapse all fields	< >
Exit BIOS	<Esc>—Remain in Setup, Save/Exit, Discard/Exit
Change a setting	Left or right-arrow key
Select field to change	<Enter>
Cancel modification	<Esc>
Reset defaults	<Alt><F> or **Load Defaults** menu option

System Setup Menu Options

The following tables describe the menu options for the System Setup program.

General	
Option	**Description**
System Information	This section lists the primary hardware features of your computer. There are no configurable options in this section, only information. • **System Information** ○ BIOS Version ○ Service Tag ○ Asset Tag ○ Ownership Tag • **Memory Information** ○ Memory Installed ○ Memory Available ○ Memory Speed ○ Memory Channel Mode ○ Memory Technology ○ DIMM A Size ○ DIMM B Size • **Processor Information** ○ Processor Type ○ Core Count ○ Processor ID ○ Current Clock Speed ○ Minimum Clock Speed ○ Maximum Clock Speed • **Device Information** ○ Primary Hard Drive ○ Secondary Hard Drive ○ System eSATA Device ○ Video Controller ○ Video BIOS Version

	○ Video Memory ○ Panel Type ○ Native Resolution ○ Audio Controller ○ Wi-Fi Device ○ Cellular Device ○ Bluetooth Device ○ Wireless USB Device
Battery Information	Indicates the primary battery and the media bay battery status. Also displays the type of AC adapter connected to the computer.
Boot Sequence	The computer attempts to boot from the sequence of devices specified in this list: • Diskette drive • USB Storage Device • CD/DVD/CD-RW Drive. • Internal HDD (IRRT) • (Secondary HDD name) • Onboard NIC This list specifies the order that the BIOS searches devices when trying to find an operating system to boot. To change the boot order, select the device to be changed in the list then click the up/down arrows or use the keyboard PgUp/PgDn keys to change the boot order of the device. The boot devices can also be de-selected from the list using the check boxes.
Date/Time	Displays current date and time settings.

System Configuration	
Option	**Description**
NOTE:	The System Configuration group contains options an settings relater to integrated system devices. (Depending on your computer and installed devices, the items listed in this section may or may not appear.)
SATA Operation	This option configures the operating mode of the internal SATA hard drive controller. The settings are **Disabled**, **ATA**, **AHCI**, and **IRRT**. Default setting: **IRRT**
Miscellaneous Devices	Use the check boxes to enable/disable the following devices: • eSATA Ports • External USB Port • Microphone Default setting: **All enabled**.
Latitude ON	Use the check boxes to enable/disable the following devices: **Enable Latitude ON** = Latitude ON is available by pressing the Latitude ON button. **Use instant on mode** = Latitude ON will be instantly available by pressing the Latitude ON button when the computer is off or hibernated. Instant on mode will use a small amount of battery power to ensure availability of Latitude ON. Without Instant on mode, Latitude ON will take up to a minute longer to boot, but will not use any battery power when off.
Keyboard Illumination	This field lets you choose the operating mode of the keyboard illumination feature. The settings are **Disabled**, **Auto ALS and Input**, and **Auto Input Only**. Default setting: **Auto ALS and Input**
USB PowerShare	This option configures the USB PowerShare feature behavior. Use the check box to enable / disable the feature (default state is disabled). The settings are **0%**, **3%**, **10%**, **25%**, **50%**, and **75%**.
USB PowerShare Mode	Select either Mode A or Mode B. Uses Mode A by default. If your device fails to charge with Mode A, please try Mode B.

Video	
Option	**Description**
Ambient Light Sensor	Enabling ALS will allow your system to automatically change the brightness of your system's LCD panel based on the amount of light in the environment. Default setting: **Disabled**
LCD Brightness	This option (represented by a slider bar for **On Battery** and **On AC**) sets the panel brightness when the ambient light sensor is off.

Security	
Option	**Description**
Admin Password	This field lets you set, change, or delete the administrator (admin) password (sometimes called the "setup" password). The admin password enables several security features when set including: • Restricts changes to the settings in Setup • Restricts the boot devices listed in the <F12> Boot Menu to those enabled in the "Boot Sequence" field. • Prohibits changes to the owner and asset tags. • Substitutes for the system password if the system prompts for a password during power on. Successful changes to this password take effect immediately. **NOTE**: If you delete the admin password, the system password is also deleted. Also, the admin password can be used to delete the HDD password. For this reason, you cannot set an admin password if a system password or HDD is already set. The admin password must be set first if used in conjunction with a system and/or HDD password.

System Password	This field lets you set, change, or delete the system password (previously called the "Primary" password).
Internal HDD PW	This field lets you set, change, or delete the password on the system's internal hard disk drive (HDD). Successful changes take place immediately and require a system restart. The HDD password travels with the hard drive, so the HDD is protected even when installed in another system.
Secondary HDD PW	This field lets you set, change, or delete the password on the system's second internal hard disk drive (HDD). Successful changes take place immediately and require a system restart. The HDD password travels with the hard drive, so the HDD is protected even when installed in another system.
Password Bypass	This option lets you bypass the system and internal HDD password prompts during a system restart or when resuming from a standby state. Settings are **Disabled**, **Reboot Bypass**, **Resume Bypass**, and **Reboot & Resume Bypass**. The system will always prompt for the set system and internal HDD password when powered on from an off state (cold boot).
Password Change	This option lets you determine whether changes to the System and HDD passwords are permitted when an Admin password is set. Use the check box to allow or disallow changes.
TPM Security	This option lets you control whether the Trusted Platform Module (TPM) in the system is enabled and visible to the operating system. When disabled (check box is empty), the BIOS will not turn on the TPM during POST. The TPM will be non-functional and invisible to the operating system. When enabled (check box filled) the BIOS will turn the TPM on during POST so the it can be used by the operating system. **NOTE**: Disabling this option does not change any settings you may have made to the TPM, nor does it delete or change any information or keys you may have stored there. It simply turns off the TPM so that it cannot be used. When you re-enable the TPM, it will function exactly as it did before it was disabled. Once TPM is enabled (check box filled), the available settings are: **Deactivate**, **Activate**, and **Clear**. With the TPM in Deactivate mode it will not execute any commands that use the resources of the TPM, nor will it allow any access to stored owner information. The **Clear** setting allows the owner information stored in the TPM to be cleared. Use this to restore the TPM to its default state if you lose or forget the owner authentication data.
Computrace®	This field lets you activate or disable the BIOS module interface of the optional Computrace software. The settings are **Deactivate**, **Disable**, and **Activate**. The Activate and Disable options will permanently activate or disable the feature and no further changes will be allowed.
CPU XD Support	This field enables or disables the Execute Disable mode of the processor. Use the check box to enable / disable this feature. Default setting: **Enabled**
Non-Admin Setup Changes	This option lets you determine whether changes to the setup option are permitted when an administrator password is set. If disabled the setup option is locked by the admin password. It cannot be modified unless setup is unlocked. Use the check boxes to allow / deny access to the Wi-Fi Catcher Changes and / or Wireless Switch Changes within the system setup.

Performance	
Option	**Description**
Multi Core Support	Use the check box to enable / disable multi core support for the CPU.
Intel® SpeedStep	Use the check box to enable / disable mode for the CPU.

Power Management	
Option	**Description**
Wake on AC	Use the check box to enable / disable the computer to power up from the off or hibernation state when an AC adapter is inserted.
Auto On Time	This field sets the of days, if any, when you would like the system to turn on automatically. The settings are **Disabled**, **Everyday**, or **Weekdays**. Default setting: **Off**
USB Wake Support	Use the check box to enable / disable the ability for USB devices to wake the system from Standby. This feature is only functional when the AC power adapter is connected. If the AC power adapter is removed during Standby, the BIOS will remove power from all of the USB ports to conserve battery power.
Wake on LAN/WLAN	This field allows the computer to power up from the off state when triggered by a special LAN signal or from Hibernate state when triggered by a special wireless LAN signal. Wake-up from the Standby state is unaffected by this setting and must be enabled in the operating system. • **Disabled** — Do not allow the system to power on when it receives a wake-up signal from the LAN or wireless LAN. • **LAN Only** — Allow the system to be powered on by special LAN signals. • **WLAN Only** — Allow the system to be powered on by special WLAN signals. • **LAN or WLAN** — Allow the system to be powered on by special LAN or wireless LAN signals. The factory default setting is **Off**.
Charger Behavior	This field lets you enable / disable the battery charger. If disabled, the battery will not lose power when the system is connected to an AC adapter but it will not charge either. Default setting: **Charger Enabled**
Wireless Adapter	Enables / Disables the Wireless Adapter (charging coil for use with the wireless charging station) in the system.

POST Behavior	
Option	**Description**
Adapter Warnings	Use the check box to enable/disable the BIOS warning messages when you use certain power adapters. The BIOS displays these messages if you attempt to use a power adapter that has too little capacity for your configuration.

	The factory default setting is **Enabled**.
Keypad (Embedded)	This option lets you choose one of two methods to enable the keypad that is embedded in the internal keyboard. • **Fn Key Only** — The keypad is only enabled when you hold down the <Fn> key. • **By Num Lk** — The keypad is enabled when (1) the Num Lock LED is on and (2) no external keyboard is attached. Note that the system might not notice immediately when an external keyboard is detached. When Setup is running, this field has no effect—Setup works in the **Fn Key Only** mode. The factory default setting is **Fn Key Only**.
Numlock LED	Use the check box to enable/disable the Num Lock LED when the system boots. The factory default setting is **Enabled**.
USB Emulation	This option defines how the BIOS, in the absence of a USB-aware operating system, handles USB devices. USB emulation is always enabled during POST. Use the check box to enable / disable this feature. The factory default setting is **Enabled**.
Fn Key Emulation	This field lets you use the <Scroll Lock> key on an external PS/2 keyboard the same way you use the <Fn> key on the computer's internal keyboard. Use the check box to enable / disable this feature. USB keyboards cannot emulate the <Fn> key if you are running an ACPI operating system such as Microsoft® Windows® XP. USB keyboards will only emulate the <Fn> key in non-ACPI mode (e.g., when you are running a DOS). The factory default setting is **Enabled**.
Fast Boot	This field can speed up the boot process by bypassing some compatibility steps. • **Minimal** — Boot quickly unless the BIOS has been updated, memory changed, or the previous POST did not complete. • **Thorough** — Do not skip any steps in the boot process. • **Auto** — Allow the operating system to control this setting (this works only when the operating system supports Simple Boot Flag). The factory default setting is **Minimal**.
Intel Fast Call for Help	Used in conjunction with iAMT 4.0. Allows users to initiate contact with a management console while residing outside of the corporate infrastructure (i.e. remote location, behind a firewall or NAT, etc.) Use the check box to enable / disable this feature.

Virtualization Support	
Option	**Description**
Virtualization	This field specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel® Virtualization Technology. Use the check box to enable/disable this feature. The factory default setting is **Disabled**.
VT for Direct I/O	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization Technology for Direct I/O. Use the check box to enable/disable this feature. The factory default setting is **Disabled**.
Trusted Execution	This option specifies whether a Measured Virtual Machine Monitor (MVMM) can utilize the additional hardware capabilities provided by Intel Trusted Execution Technology. The TPM, Virtualization Technology, and Virtualization Technology for Direct I/O must be enabled to use this feature. Use the check box to enable/disable this feature. The factory default setting is **Disabled**.

Wireless	
Option	**Description**
Wireless Switch	Use the check boxes to determine which wireless devices will be controlled by the wireless switch. The available options are **WWAN**, **WLAN**, and **Bluetooth®**.
Wireless Devices	Use the check boxes to enable/disable the various wireless devices. The available options are **Internal WWAN**, **Internal WLAN**, and **Internal Bluetooth.**

Maintenance	
Option	**Description**
Service Tag	This field displays your system's Service Tag. If for some reason the Service Tag was not already set, you would be able to use this field to set it. If a Service Tag has not been set for this system, the computer will automatically bring up this screen when users enter the BIOS. You will be prompted to enter the Service Tag.
Asset Tag	This field allows you to create a system Asset Tag. The field can only be updated if the Asset Tag is not already set.

System Logs	
Option	**Description**
BIOS Events	This field allows you to view and clear BIOS POST events. It includes the date and time of the event as well as the LED code.
DellDiag Events	This field allows you to view the diagnostic results from DellDiags and PSA. It includes the time and date, the diagnostic and version which was run and the resulting code.
Thermal Events	This field allows you to view and clear thermal events. It includes the date and time as well as the name of the event.
Power Events	This field allows you to view and clear power events. It includes the date and time of the event as well as the power state and reason.

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Diagnostics

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Device Status Lights

Device status LEDs are a strong source for diagnosing common problems that occur on portable systems. The LED locations vary from system to system so be sure to review the specific training pages (typically found under the Chassis section) to learn where the LEDs are located. One thing that remains common on portable platforms is what each LED represents and how errors are displayed.

	Turns on when you turn on the computer and blinks when the computer is in a power management mode.
	Turns on when the computer reads or writes data.
	Turns on steadily or blinks to indicate battery charge status.
	Turns on when wireless networking is enabled.
	Turns on when a card with Bluetooth® wireless technology is enabled. To turn off only the Bluetooth wireless technology function, right-click the icon in the system tray and select **Disable Bluetooth Radio**.

Battery Status Lights

If the computer is connected to an electrical outlet, the battery light operates as follows:

- **Alternately blinking amber light and blue light** — An unauthenticated or unsupported, non-Dell AC adapter is attached to your laptop.
- **Alternately blinking amber light with steady blue light** — Temporary battery failure with AC adapter present.
- **Constantly blinking amber light** — Fatal battery failure with AC adapter present.
- **Light off** — Battery in full charge mode with AC adapter present.
- **Blue light on** — Battery in charge mode with AC adapter present.

Battery Charge and Health Status

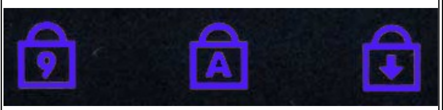
To check the battery charge, press and release the status button on the battery charge gauge to illuminate the charge-level lights. Each light represents approximately 20 percent of the total battery charge. For example, if four lights are on, the battery has 80 percent of its charge remaining. If no lights appear, the battery has no charge.

To check the battery health using the charge gauge, press and hold the status button on the battery charge gauge for at least 3 seconds. If no lights appear, the battery is in good condition and more than 80 percent of its original charge capacity remains. Each light represents incremental degradation. If five lights appear, less than 60 percent of the charge capacity remains, and you should consider replacing the battery.

No-POST Light Codes

The numeric key light, caps lock light, and scroll lock light are also used to diagnose issues that may occur in a no-POST scenario.

Appearance	Description	Next Step
ON-FLASH-FLASH 	No SODIMMs are installed	1. Install supported memory modules. 2. If memory is already present, reseat the module(s) one at time in each slot. 3. Try known good memory from another computer or replace the memory. 4. Replace the system board.
FLASH-ON-ON 	System board error	1. Reseat the processor. 2. Replace the system board. 3. Replace the processor.
FLASH-ON-FLASH 	LCD Panel Error	1. Reseat the LCD cable. 2. Replace the LCD panel. 3. Replace the video card/system board.
OFF-FLASH-OFF		1. Install compatible memory modules.

	Memory compatibility error	2. If two modules are installed, remove one and test. Try the other module in the same slot and test. Test the other slot with both modules. 3. Replace the memory. 4. Replace the system board.
ON-FLASH-ON 	Memory is detected but has errors	1. Reseat the memory. 2. If two modules are installed remove one and test. Try the other module in the same slot and test. Test the other slot with both modules. 3. Replace the memory 4. Replace the system board.
OFF-FLASH-FLASH 	Modem Error	1. Reseat the modem. 2. Replace the modem. 3. Replace the system board.
FLASH-FLASH-FLASH 	System board error	1. Replace the system board.
FLASH-FLASH-OFF 	Option ROM Error	1. Reseat the device. 2. Replace the device. 3. Replace the system board.
OFF-ON-OFF 	Storage device error	1. Reseat the hard drive and optical drive. 2. Test the computer with just the hard drive and just the optical drive. 3. Replace the device that is causing the failure. 4. Replace the system board.
FLASH-FLASH-ON 	Video card error	1. Replace the system board.

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Adding and Replacing Parts

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Specifications

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- Processor
- Memory
- Communications
- Audio
- Keyboard
- Battery
- Fingerprint Reader
- Physical
- System Information
- Ports and Connectors
- Video
- Display
- Touch Pad
- AC Adapter
- Environmental

NOTE: Offerings may vary by region. For more information regarding the configuration of your computer, click **Start** (or **Start** in Windows® XP)→ **Help and Support**, and then select the option to view information about your computer.

Processor	
Processor type	Intel® Core™ 2 Duo processor Ultra Low Voltage
Front side bus frequency	800 MHz
L2 cache	3 MB

System Information	
System chipset	Mobile Intel GS45 Express Chipset
Data bus width	64 bits
DRAM bus width	dual-channel (2) 64-bit
Processor address bus width	36 bits
PCI bus	32 bits

Memory	
Memory module connector	Memory soldered to the system board
Memory module capacities	2 GB and 4 GB fixed configurations
Memory type	DDR3 SODIMM
Minimum memory	2 GB
Maximum memory	4 GB

Ports and Connectors	
Audio	Stereo headphones and speakers connector
Mini-Card	One dedicated half mini-card slot for WLAN One dedicated full mini-card slot for WWAN/GPS (mobile broadband)
Network Adapter	RJ-45 connector
USB	Two 4-pin 2.0-compliant connectors **NOTE:** One USB connector can be used as an eSATA connector. The other USB connector with PowerShare can be used to charge a USB device when the computer is turned on or off.
Video	DisplayPort connector with legacy adapters

Communications	
Network adapter	10/100/1000 Ethernet LAN on system board
Wireless	Internal WLAN, WWAN, Bluetooth®, and UWB wireless support (if optional cards are purchased)

Video	
Type	integrated on the system board
Data bus	integrated video
Video controller	Intel Graphics Media Accelerator
Video memory	up to 256 MB of shared memory

Audio	
Audio type	Two-channel high-definition audio codec
Audio controller	IDT 92HD81B
Stereo conversion	24-bit (stereo digital-to-analog) 24-bit (stereo analog-to-digital)
Interfaces:	
Internal	High definition audio
External	Stereo headphones/speakers mini-connector
Speakers	One 4-ohm speaker
Internal speaker amplifier	2-Watt channel into 4 ohms
Volume controls	Volume control buttons and program menus

Display	
Type (active-matrix TFT)	HD+
Active X/Y	198.45 mm (7.81 in) x 352.8 mm (13.9 in)
Dimensions:	
Height	214 mm (8.43 in)
Width	365 mm (12.37 in)
Diagonal	406.4 mm (16 in)
Maximum Resolutions	1600 x 900 at 262 K colors
Operating angle	0° (closed) to 140°
Refresh rate	60 Hz
Viewing angle (horizontal)	55°
Pixel pitch	0.2588
Power consumption (panel with backlight)	7.0 W (max)

Keyboard	
Number of keys	83 (United States and China); 84 (Europe)
Layout	QWERTY/AZERTY

Touch Pad	
X/Y position resolution (graphics table mode)	240 CPI
Size:	
Width	91.0 mm (3.6-inch) sensor-active area
Height	46.7 mm (1.8-inch) rectangle

Battery	
Type	"smart" lithium ion 4-cell: 40 Whr 8-cell: 80 Whr
Dimensions:	
4-cell battery	
Depth	36.11 mm
Height	20.10 mm
Weight	250.6 g
8-cell battery	
Depth	57.31 mm
Height	21.00 mm
Weight	475.7 g
Voltage	
4-cell lithium-ion battery	14.8 VDC
8-cell lithium-ion battery	14.8 VDC
Temperature range	
Operating	0° to 35° C (32° to 95° F)
Storage	-40° to 60° C (-40° to 145° F)
Coin-cell battery	CR-2032

AC Adapter	
Input voltage	100–240 VAC
Input current (maximum)	1.5 A
Input frequency	50–60 Hz
Output current	2.31 A
Output power	45 W
Rated output voltage	19.5 VDC
Dimensions	16 x 50 x 90 mm
Temperature range	
Operating	0° to 40° C (32° to 104° F)
Storage	–40° to 70° C (–40° to 158° F)

Fingerprint Reader (optional)	
Type	UPEK TCS3 TouchStrip™ strip sensor with CMOS active capacitive pixel-sensing technology

Physical	
Height	
4-cell	20.10
8-cell	21.00 mm
Width	
Height	14.55—20.1 mm (0.57—.79 inches)
Width	396.34 mm (15.6 inches)
Depth	272.25 mm (10.72 inches)
Weight	2 kg (4.5 lb)

Environmental	
Temperature range	
Operating	0° to 35°C (32° to 95°F)
Storage	–40° to 65°C (–40° to 149°F)
Relative humidity (maximum)	
Operating	10% to 90% (non-condensing)
Storage	5% to 95% (non-condensing)
Maximum vibration (using a random-vibration spectrum that simulates user environment)	
Operating	0.66 GRMS
Storage	1.3 GRMS
Altitude (maximum)	
Operating	-5.2–3048 m
Storage	-15.2–10,668 m
Airborne contaminant level	G2 or lower as defined by ISA-S71.04-1985

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Battery

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Removing the Battery



NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Slide the battery release latch into the unlocked position.
3. Remove the battery from the computer.

Replacing the Battery

To replace the battery, perform the above steps in reverse order.

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Hinge Covers

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Removing the Hinge Covers



NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the screw that secures the right hinge cover to the computer.

3. Remove the right hinge cover from the computer.

4. Repeat the procedure to remove the left hinge cover.

Replacing the Hinge Covers

To replace the hinge covers, perform the above steps in reverse order.

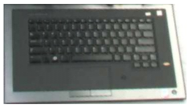
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Keyboard and Palm-Rest Assembly

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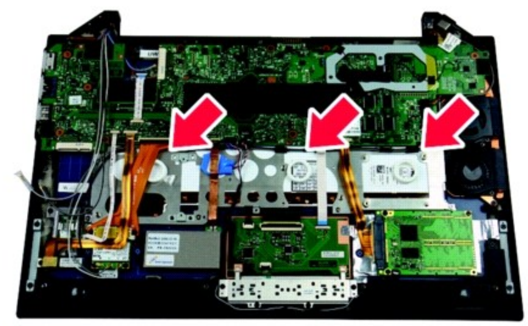
Removing the Keyboard and Palm-Rest Assembly

NOTE: The keyboard and palm-rest assembly is a one-piece assembly which serves as your computer's main structure. Your computer was designed to have all parts mount to the keyboard and palm-rest assembly.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the access panel from the computer.
4. Remove the WLAN card from the computer.
5. Remove the WWAN card from the computer.
6. Remove the display assembly from the computer.
7. Remove the hard drives from the computer.
8. Remove the charging coil from the computer if applicable.
9. Remove the system board from the computer.

CAUTION: The keyboard and palm-rest assembly service kit ships with three foam rings that provide additional support for the internal chassis. Failure to install the foam rings may result in damage to your computer.

10. Examine the foam ring configuration on the old keyboard and palm-rest assembly, and then, using the foam rings included in the keyboard and palm-rest assembly kit, affix the new foam rings in the same pattern on the new assembly.



Replacing the Keyboard and Palm-Rest Assembly

To replace the keyboard and palm-rest assembly, perform the above steps in reverse order.

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Access Panel

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Removing the Access Panel



NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Loosen the captive screws that secure the small access door to the computer.
5. Remove the access door from the computer.
6. Remove the screws inside the access door bay.
7. Remove the SIM card if applicable.
8. Remove the screws that secure the access panel to the computer in the battery well.
9. Remove the screw on the inside of the right hinge assembly.
10. Remove the screws that secure the access panel to the computer.
11. Remove the access panel from the computer.

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Hard Drive

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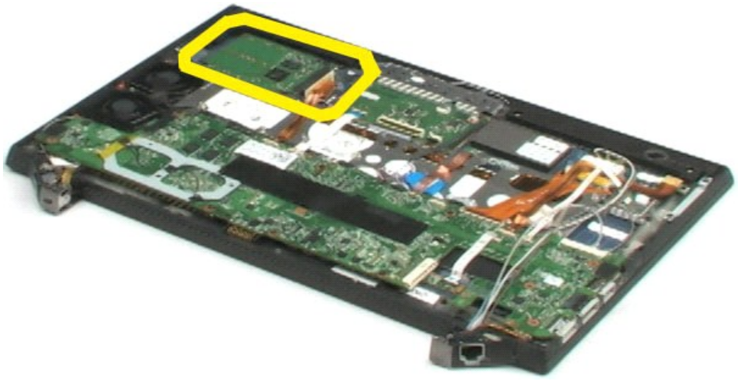
NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

- Removing the Primary Hard Drive
- Replacing the Primary Hard Drive
- Removing the Secondary Hard Drive
- Replacing the Secondary Hard Drive

Removing the Primary Hard Drive



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.



5. Disconnect the hard-drive cable from the connector on the system board.

6. Remove the screws that secure the primary hard drive to the computer.

7. Lift the primary hard drive from the computer.

Replacing the Primary Hard Drive

To replace the primary hard drive, perform the above steps in reverse order.

Removing the Secondary Hard Drive



NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Release the Bluetooth® module cable from its connector by drawing the two gray tabs outward and away from the white connector.
6. Disconnect the Bluetooth module cable from its connector on the system board by pulling it slowly from the connector.
7. Release the bio-metric reader cable from its connector by drawing the two gray tabs outward and away from the white connector.
8. Disconnect the bio-metric reader cable from its connector on the system board by pulling it slowly from the connector.
9. Disconnect the secondary hard drive cable from the secondary hard drive.
10. Remove the screws that secure the hard drive to the computer.
11. Sliding the secondary hard drive from under the ribbon cables, remove the secondary hard drive from the computer.

Replacing the Secondary Hard Drive

To replace the secondary hard drive, perform the above steps in reverse order.

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Internal Card With Bluetooth® Wireless Technology

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the Bluetooth Module

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the Bluetooth module cable from the system board.

6. Remove the screw that secures the Bluetooth module to the computer.

7. Remove the Bluetooth module from the computer.

Replacing the Bluetooth Module

To replace the Bluetooth module, perform the above steps in reverse order.

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Coin-Cell Battery

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the Coin-Cell Battery

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the speaker cable from its connector on the system board.
6. Disconnect the coin-cell battery cable from its connector on the system board.
7. Remove the coin-cell battery from under the flat copper cable assembly, then lift the battery from the computer.

Replacing the Coin-Cell Battery

To replace the coin-cell battery, perform the above steps in reverse order.

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Speakers

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the Speakers

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the speaker cable from the system board.
6. Remove the screws that secure the right speaker.
7. Lift the speaker from the computer and lay it next to the computer.
8. Remove the screws that secure the left speaker.
9. Lift the speaker from the computer and lay it next to the computer.
10. Remove the speaker assembly from the computer.

Replacing the Speakers

To replace the speakers, perform the above steps in reverse order.

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Wireless Large Area Network (WLAN) Card

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the WLAN Card

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the antenna cables from the WLAN card.

6. Remove the screws that secure the WLAN card to the computer.

7. Remove the WLAN card from the computer at a 45-degree angle.

Replacing the Wireless LAN Card

To replace the WLAN card, perform the above steps in reverse order.

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Wireless Wide Area Network (WWAN) Card

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the WWAN Card

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the antenna cables from the WWAN card.
6. Remove the screws that secure the WWAN card to the computer.
7. Remove the WWAN card from the computer at a 45-degree angle.

Replacing the WWAN Card

To replace the WWAN card, perform the above steps in reverse order.

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Network Connector

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the Network Connector

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Remove the screw that secures the connector to the computer hinge.
6. Remove the network connector cover from the hinge.
7. Disconnect the network connector cable from the system board.
8. Remove the network connector from the computer.

Replacing the Network Connector

To replace the network connector, perform the above steps in reverse order.

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Power Connector

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the Power Connector

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Remove the screw that secures the power connector to the computer.
6. Remove the power connector cover from the computer hinge.
7. Disconnect the power connector cable from the system board.
8. Remove the power connector from the computer.

Replacing the Display Assembly

To replace the display assembly, perform the above steps in reverse order.

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System Board

Dell™ Latitude™ Z600 Service Manual

⚠ **WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

- Removing a System Board Without Latitude ON
- Removing a System Board With Latitude ON
- Replacing a System Board Without Latitude ON
- Replacing a System Board With Latitude On

Removing a System Board Without Latitude ON



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the hard drive and touch pad cables from the system board.
6. Disconnect the wireless smart card, coin-cell, and speaker cables from their connectors on the system board.
7. Disconnect the fingerprint reader, Bluetooth®, and wireless card cables from their connectors on the system board.
8. Disconnect the volume control board cable from its connector on the system board.
9. Disconnect the antenna cables from their connectors on the WWAN card.
10. Remove the antenna cables from their routing paths in the computer.
11. Disconnect the network interface cable from its connector on the system board.
12. Remove the tape that secures the remaining antenna cables to the computer, then remove the antenna cables from the computer.
13. Disconnect the power connector cable from its connector on the system board.
14. Remove the screws that secure the system board to the computer chassis.
15. Carefully flip over the system board and rest it on top of the computer chassis.

△ **Caution: Some cables remain attached to the underside of the system board.**

16. Disconnect the display panel cable from its connector on the the system board.
17. If applicable, disconnect the camera cable from its connector on the system board.

18. Remove the system board from the computer.

Replacing a System Board Without Latitude ON

To replace the system board, perform the above steps in reverse order.

Removing a System Board With Latitude ON



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the hard drive and touch pad cables from the system board.

6. Disconnect the coin-cell, speaker, wireless smart card, WLAN, Bluetooth®, fingerprint, and volume control board cables from their connectors on the system board.

7. Disconnect the wireless card antennas from the connectors on the WWAN card.

8. Remove the antenna cables from their routing paths in the computer.

9. Disconnect the antenna from its connectors on the Secure Digital I/O (SDIO) board.

10. Remove the screws that secure the system board to the computer chassis.

11. Remove the remaining cables from the computer.

15. Carefully flip over the system board and rest it on top of the computer chassis.

Caution: Some cables remain attached to the underside of the system board.

11. Disconnect the network interface cable from its connector on the system board.

14. Disconnect the LVDS cable from its connector on the system board.

15. Disconnect the camera cable from its connector on the system board.

16. Disconnect the power cable from its connector on the system board.

18. Remove the system board from the computer.

Replacing a System Board with Latitude ON

To replace the system board with Latitude ON, perform the above steps in reverse order.

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Ultra Wide Band (UWB) Card

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the UWB Card

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the antenna from the UWB card.

8. Remove the screws that secure the UWB card to the system board.

9. Remove the UWB card from the computer.

Replacing the UWB Card

To replace the UWB, perform the above steps in reverse order.

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Heat Sink Assembly

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the Heat Sink Assembly

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Remove the system board from the computer and place the system board on a clean, flat work surface.
6. Carefully remove the tape that covers the heat sink fan cables and their connectors on the system board.
7. Disconnect the heat sink fan cables from their connectors on the system board.
8. Flip the system board upside-down.
9. Remove the screws that secure the heat sink assembly to the system board.
10. Remove the heat sink assembly from the system board.

Replacing the Heat Sink

To replace the heat sink, perform the above steps in reverse order.

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WLAN Card Connector

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the WLAN Card Connector

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Remove the screws that secure the WLAN connector assembly to the computer.
6. Remove the connector assembly from the computer.

Replacing the WLAN Card Connector

To replace the WLAN card connector, perform the above steps in reverse order.

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Wireless Charging Coil

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.



Removing the Wireless Charging Coil

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Disconnect the two cables that connect the charging coil to the system board.
6. Remove the screws that secure the charging coil to the system board.
7. Remove the wireless charging coil from the computer.

Replacing the Wireless Charging Coil

To replace the wireless charging coil, perform the steps above in the reverse order.

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Display Assembly

Dell™ Latitude™ Z600 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

NOTE: You may need to install Adobe Flash Player from **Adobe.com** in order to view the illustrations below.

Removing the Display Bezel



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the bezel from the display assembly by using your fingertips carefully to pry the bezel at the inside edges.

4. Flip over the display bezel to reveal the edge touch sensor ribbon cable.

5. Release the ribbon cable from its connector by drawing the gray tabs at either side away from the white connector.

6. Disconnect the ribbon cable from its connector on the system board by pulling on the plastic tab.

7. Remove the display bezel from the computer.

Replacing the Display Bezel

To replace the display bezel, perform the above steps in reverse order.

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Removing the Display Panel Assembly



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the display bezel from the computer.
4. Remove the screws that secure the display panel assembly to the computer.

5. Carefully flip over the display panel assembly and rest it on top of the palmrest.

6. From the back of the display panel, remove the tape covering the display cable connector.

7. Release the adhesive under the display cable.

8. Disconnect the display cable from the display panel assembly.

9. Remove the display panel assembly from the computer and place the display panel assembly on a clean work surface.

10. Remove the screws that secure the first display bracket to the display panel.

11. Remove the first display bracket from the display panel.

12. Rotate the display panel assembly 180-degrees.

13. Remove the screws that secure the second bracket to the display panel.

14. Remove the second display bracket from the display panel.

Replacing the Display Panel Assembly

To replace the display panel assembly, perform the above steps in reverse order.

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Removing the Display Assembly



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Remove the system board from the computer.
6. Remove the screw that secures the display assembly to the palmrest assembly near the left hinge.

7. Remove the screw that secures the display assembly to the palmrest assembly near the right hinge.

8. Lift the base palm rest assembly away from the display assembly.

Replacing the Display Assembly

To replace the display assembly, perform the above steps in reverse order.

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Removing the Display Assembly Hinges



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge covers from the computer.
4. Remove the access panel from the computer.
5. Remove the display bezel from the computer.
6. Remove the display panel from the display assembly.
7. Remove the display assembly from the computer and set the display assembly on a clean, flat workspace.
8. Remove the screws that secure the right display hinge to the display assembly.
9. Lift the display hinge from the display assembly.
10. Unthread any wires and remove the first display hinge.
11. Repeat the above steps to remove the second display hinge.
12. Lift the second display hinge from the display assembly.

Replacing the Display Assembly Hinges

To replace the display assembly hinges, perform the above steps in reverse order.

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Working on Your Computer

Dell™ Latitude™ Z600 Service Manual

Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have performed the steps in Working on Your Computer.
- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

To avoid damaging your computer, perform the following steps before you begin working inside the computer.

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning Off Your Computer).
3. If the computer is connected to a docking device (docked) such as the optional Media Base or Battery Slice, undock it.

CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

4. Disconnect all network cables from the computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Close the display and turn the computer upside-down on a flat work surface.

CAUTION: To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Remove the main battery (see Battery).
8. Turn the computer top-side up.
9. Open the display.
10. Press the power button to ground the system board.

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the display.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

11. Remove any installed ExpressCards or Smart Cards from the appropriate slots.
12. Remove the hard drive (see Hard Drive).

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- #0 Phillips screwdriver
- #1 Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program CD

Turning Off Your Computer

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system:

- **In Windows Vista®:**

  Click **Start** **,** then click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down**.



- **In Windows® XP:**

  Click **Start→ Turn Off Computer→ Turn Off**.

  The computer turns off after the operating system shutdown process is complete.

2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 6 seconds to turn them off.

After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.

1. Connect any external devices, such as a port replicator, battery slice, or media base, and replace any cards, such as an ExpressCard.

CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.

2. Connect any telephone or network cables to your computer.
3. Replace the battery.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

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